

What is claimed is: -

1 Sub A¹ 1. A method of managing usage of a resource in a network system, the method
2 comprising:
3 indicating available credit for usage of a resource; and
4 regulating usage of the resource by a process based on the indicated available credit.

1 2. The method of claim 1, wherein the resource is memory space or system
2 processor time.

1 3. The method of claim 1, wherein the network is an embedded computer
2 system.

1 4. The method of claim 1, wherein the network operates in a real-time
2 networking environment.

5. The method of claim 1, wherein the method is modeled as a leaky bucket.

1 Sub A² 6. The method of claim 1, further comprising:
2 determining the priority of the resource; and
3 allocating the resource in response to an increased priority of the resource.

1 7. The method of claim 1, wherein the regulating step comprises modifying the
2 available credit by adjusting a maximum resource usage value.

1 8. The method of claim 1, further comprising notifying the process of the
2 availability of the credit if the indicated available credit is less than a requested usage amount

Sub A³ 7

9. The method of claim 8, wherein the notifying step comprises sending a message to a network address associated with the process when the requested usage amount is greater than the available credit.

10. A method of managing a plurality of resources in a network having a plurality of devices, comprising:
creating a software tool on each of the plurality of devices accessing the plurality of resources corresponding to each of the resources; and
using the software tool to regulate the usage of any of the plurality of the resources by any of the plurality of devices.

11. The method of claim 10, wherein the creating step comprises:
allocating a descriptor representative of any of the software tools to any of the plurality of devices; and
associating with each software tool a maximum usage level.

Sub A⁴ 7

12. The method of claim 11, wherein the using step comprises:
decrementing the maximum usage level of the software tool in response to the use of the resource associated with the tool by any of the plurality of devices;
calculating an available credit based on the usage of the resource associated with the tool as a function of the maximum usage level; and
indicating to a device waiting to use the resource associated with the tool of the available credit.

13. The method of claim 12, wherein the indicating step comprises sending a message to a network address associated with the waiting device to indicate when the available credit exceeds a specified usage level.

1 14. The method of claim 13, further comprising incrementing the maximum usage
2 level to at least correspond to the specified usage level.

1 15. The method of claim 11, further comprising overriding the maximum usage
2 level to allow a device access to one of the plurality of resources.

1 16. The method of claim 10, further comprising destroying the software tool in
2 response to a request from one of the devices.

1 Sub A5 17. Computer software, residing on a computer-readable medium at a device
2 connected to a network, comprising instructions to cause the device to perform the following
3 operations:

4 indicating available credit for usage of a resource; and
5 regulating usage of the resource by a process based on the indicated available credit.

1 18. A network including a plurality of devices, comprising:
2 a plurality of resources running in the network; and
3 computer software, residing on a computer readable medium at each device accessing
4 the plurality of resources to cause the device to perform the following operations:

5 indicating available credit for usage of a resource; and
6 regulating usage of the resource by a process based on the indicated available
7 credit.

1 19. The method of claim 18, wherein the plurality of resources comprise memory
2 space or system processor time.

1 20. The method of claim 18, wherein the network is an embedded computer
2 system.

Sub A⁵ >

- 1 21. The method of claim 18, wherein the network operates in a real-time
2 networking environment.

Add A⁶ >

Add E² >

09918-024001-264860